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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/450,768	11/30/1999	OSAMU KUBONIWA	MA-385-US	8157

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EXAMINER	
TSEGAYE, SABA	

ART UNIT	PAPER NUMBER
2662	15

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/450,768	KUBONIWA, OSAMU	
	Examiner	Art Unit	
	Saba Tsegaye	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *13*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment field 4/23/04. claims 1-20 are pending. Currently no claims are in condition for allowance.

2. Applicant's request for reconsideration of the rejection under 35 USC 112, 1st and 2nd paragraph of the last Office action is persuasive and, therefore, the rejection of that action is withdrawn.

Claim Rejections - 35 USC § 102

3. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaplan et al. (US 6,141,339).

- Referring to claim 1, Kaplan discloses an asymmetrical digital subscriber line (ADSL) system for transferring an analog audio signal of an analog communication equipment and high speed digital data of a high speed digital data equipment provided on the side of a subscriber, from and to a station, through one subscriber line (Fig. 2), comprising:

an apparatus on the subscriber side in which an analog audio signal of the analog communication equipment is converted into a digital audio signal (voice to ATM, col. 3, Ins. 40-50),

said subscriber side apparatus comprising a line concentrator to concentrate the digital audio signal together with the high-speed digital data by time division (Fig. 2, col. 3, Ins. 40-50, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided

in time), and supplied to the subscriber line after being modulated by a first ADSL modem (col. 5, Ins. 3-35), while after a signal received from the station through the subscriber line is demodulated by the first ADSL modem, the digital audio signal is converted into an analog audio signal and supplied to the analog communication equipment, and at the same time high-speed digital data is supplied to the high-speed digital data equipment (col. 5, Ins. 3-35)-, and

an apparatus on the station side (MUX 220, Fig.2) in which a signal received from said apparatus on the subscriber side through the subscriber line is demodulated by a second ADSL modem (MUX '220' inherently has an ADSL modem to receive the ADSL signal to convert it into ATM cell for interfacing with ATM network of Fig. 4), thereafter at the service node the digital audio signal is converted into an analog audio signal, which is supplied to an analog telephone network (POTS), and at the same time high-speed digital data is supplied to a high-speed digital data network (ATM, Fig. 4), while an analog audio signal of the analog telephone network is converted into a digital audio signal,

said service node (station side) apparatus comprising an ATM switch (line concentrator) to concentrate the digital audio signal together with a high speed digital data of the high-speed digital data network by apparatus on the subscriber side and apparatus on the station side convert each digital audio signal as well as each high-speed digital data into asynchronous transfer mode (ATM) cells in each respective line concentrator and attach each destination address to the ATM cells (Fig. 4, cot. 5, Ins. 23-35, col. 6, Ins. 34-50).

- Referring to claim 2, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side converts each analog audio signal of a plurality of analog

communication equipment into each digital audio signal and concentrates the digital audio signal together with the high-speed digital data by time division (Fig. 2, col. 5, Ins. 3-35, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time).

- Referring to claim 3, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side and said apparatus on the station side convert each digital audio signal as well as each high-speed digital data into ATM cells, inherently attach each destination address to the ATM cells in the ATM switch (line concentrator), and concentrate the digital audio signal together with the high-speed digital data (Fig. 2 and 4).

Referring to claim 4, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side converts each analog audio signal of a plurality of analog communication equipment into each digital audio signal and concentrates the digital audio signal together with high-speed digital data by time division (Fig. 2, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time), and said apparatus on the subscriber side and apparatus on the station side convert each digital audio signal as well as each high-speed digital data into ATM cells, attach each destination address to the ATM cells in the ATM voice MUX (line concentrator), and concentrate the digital audio signal together with

the high-speed digital data (Fig. 4).

- Referring to claim 5, Kaplan discloses an ADSL system asset forth in Claim 1, wherein said apparatus on the subscriber side and apparatus on the station side divide each digital audio

signal as well as high-speed digital data into fixed time slots and the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by the first ADSL modem (col. 2, Ins. 65-col. 3, Ins. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 6, Kaplan discloses an ADSL system as set forth in Claim 1, wherein said apparatus on the subscriber side converts each analog audio signal of a plurality of analog communication equipment into each digital audio signal and concentrates the digital audio signal together with high-speed digital data by time division, and said apparatus on the subscriber side and apparatus on the station side divide each digital audio signal as well as high-speed digital data into fixed time slots and the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by the ADSL modem (Fig. 2, col. 2, Ins. 65col. 3, Ins. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection.

Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 7, Kaplan discloses an asymmetrical digital subscriber line (ADSL) system for transferring an analog audio signal of an analog communication equipment and high speed digital data of a high speed digital data equipment provided in an apparatus on a subscriber side, from and to an apparatus on a station side, through one subscriber line (Fig. 2 and 4), comprising:

said apparatus on the subscriber side comprises an analog-to-digital/ digital-to-analog (AD/DA, voice to ATM, col. 3, Ins. 40-50) converter for converting an analog audio signal of the analog communication equipment into a digital audio signal or converting a digital audio signal into an analog audio signal (voice to ATM or ATM to voice, col. 3, Ins. 4050), to supply the analog audio signal to the analog communication equipment, and supplying the high-speed digital data to the high-speed digital data equipment;

an ATM backplane (line concentrator) for concentrating the digital audio signal and the high-speed digital data by time division (ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time); and

a first ADSL modem for modulating the digital audio signal and the high-speed digital data and supplying the modulated signal to the subscriber line (Fig. 2, col. 5, Ins. 3-35), and demodulating a modulated signal received from the station side through the subscriber line;

said apparatus on the station side comprises:

a second ADSL modem for demodulating the modulated signal received from said apparatus on the subscriber side through the subscriber line and modulating a digital audio signal and high-speed digital data to be supplied to the subscriber line (the MUX inherently has an ADSL modem to receive the signal from the residential ADSL modem); and

a service node with an ATM switch (line concentrator) for supplying the digital audio signal modulated by said second ADSL modem to an analog telephone network (POTS) as well as supplying the high-speed digital data to the high-speed digital data network (ATM), and concentrating the digital audio signal from the analog telephone network and the high-speed digital data from the high-speed digital data network by time division (ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time), then to send the digital audio signal together with the high-speed digital data to said first ADSL modem,

wherein said apparatus on the subscriber side and said apparatus on the station side convert each digital audio signal and the high-speed digital data into asynchronous transfer mode (ATM) cells in each respective line concentrator and attach a destination address to the ATM cells (Fig. 1, 2 and 4, col. 6, Ins. 33-50).

- Referring to claim 8, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said apparatus on the subscriber side comprises a plurality of ones of the AD/DA converters corresponding to a plurality of analog communication equipment-, and said line concentrator in said apparatus on the subscriber side concentrates each digital audio signal converted by the plurality of AD/DA converters, together with the high-speed digital data, by time division (Fig.

2, ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time).

- Referring to claim 9, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said residential hub (line concentrators) in said apparatus on the subscriber side and in said apparatus on the station side convert digital audio signals and high-speed digital data into ATM cells in the line concentrators, attach each destination address to the ATM cells and concentrate the digital audio signal together with the high-speed digital data (Fig. 3, col. 5, Ins. 35-col. 6, Ins. 33).

Referring to claim 10, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said apparatus on the subscriber side comprises a plurality of ones of the AD/DA converter corresponding to a plurality of analog communication equipment, and said residential hub (line concentrators) in said apparatus on the subscriber side and in said apparatus on the station side convert digital audio signals (Fig. 3, '332') and high-speed digital data into ATM cells, attach each destination address to the ATM cells in the line concentrator, and concentrate the digital audio signal together with the high-speed digital data (Fig. 2 and 3, col. 5, Ins. 35-col. 6, Ins. 33).

- Referring to claim 11, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said residential hub (line concentrators) in said apparatus on the subscriber side and in said apparatus on the station side divide each digital audio signal and high-speed digital data into fixed time slots, and the digital audio signal together with the high-speed digital data is supplied

to the subscriber line after being modulated by said ADSL modem (col. 2, Ins. 65-col. 3, Ins. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 12, Kaplan discloses an ADSL system as set forth in Claim 7, wherein said apparatus on the subscriber side comprises a plurality of ones of the AD/DA converter corresponding to a plurality of analog communication equipment, and said line concentrators in said apparatus on the subscriber side and in said apparatus on the station side divide each digital audio signal and high-speed digital data into fixed time slots, the digital audio signal together with the high-speed digital data is supplied to the subscriber line after being modulated by said ADSL modem (col. 2, Ins. 65-col. 3, Ins. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data

are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 13, Kaplan discloses an ADSL system as set forth in Claim 1, wherein each said first and second line concentrator comprises an ATM cell converter, and wherein individual destination addresses are attached to each ATM cell (Fig. 2 and 4).

- Referring to claim 14, Kaplan discloses an ADSL system as set forth in Claim 7, wherein each said first and second line concentrator comprises an ATM cell converter, and wherein individual destination addresses are attached to each ATM cell (Fig. 2 and 4).

- Referring to claim 15, Kaplan discloses a method of transferring an analog audio signal over an asymmetrical digital subscriber line (ADSL) containing high-speed digital data (Fig. I and 2), comprising: providing an apparatus on a subscriber side of the network comprising an analog audio signal of an analog communication device and high-speed digital data of a high-speed digital data device (Fig. 2), comprising: converting the analog audio signal into a digital audio signal (voice to ATM, col. 3, Ins. 40-50); converting each digital audio signal and each high-speed data into asynchronous transfer mode (ATM) cells in a residential hub (line concentrator)-, attaching each destination address to each ATM cell; concentrating said converted digital audio signals together with said converted high-speed digital data into an ATM cell string signal using time division (ATM cells are transmitted sequentially in time, one cell after another, therefore they are divided in time); modulating said ATM cell string with a first

ADSL modem (fig. 2); and transmitting said modulated ATM cell string signal to the subscriber line; and receiving the ATM signal from said subscriber side into an apparatus on the station side (col. 5, Ins. 3-35), comprising: demodulating said ATM signal with a second ADSL modem (the MUX inherently has an ADSL modem to receive the ADSL signal from the residential ADSL modem); converting said concentrated digital audio signal into an analog audio signal; transmitting said analog audio signal to an analog telephone network (POTS)-, and transmitting said concentrated high-speed digital data to a high-speed digital network (ATM, Fig. 4).

- Referring to claim 16, Kaplan discloses the method of claim 15, further comprising: dividing each digital audio signal and each high-speed digital data into fixed time slots; and supplying said divided digital audio signals together with said high speed digital data to said subscriber line after modulation by said first ADSL modem (col. 2, Ins. 65-col. 3, Ins. 7). The system handles data at a certain rate, and the data is clocked at a transmission rate to be sent across the ADSL connection (6,000,000 bits per second). ATM cells are 53 bytes wide (424 bits), so the system must break the transmission rate into time slots that are 53 bytes wide. The ATM cells are not partitioned. The 53 bytes wide time slots are used to transmit data from the different analog and digital devices across the ADSL connection. Therefore the digital audio signal and the high-speed data are multiplexed using time division of 53 byte wide time slots and sent across the ADSL connection.

- Referring to claim 17, Kaplan discloses the method of claim 15, further comprising: extracting a payload from said ATM cell string and converting said extracted digital audio signals into analog audio signals (ATM to voice, col. 3, Ins. 40-50).

- Referring to claim 18, Kaplan discloses the method of claim 15, wherein said concentrating said converted digital audio signals together with said converted high-speed digital data using time division comprises multiplexing said signals and said data in a multiplexer. The system inherently multiplexes the ATM cells together (Fig. 2 and 3, col. 5, Ins. 3-35). Multiplexing is combining two or more signals together.

- Referring to claim 19, Kaplan discloses the method of claim 15, wherein said concentrating said converted digital audio signals together with said converted high-speed digital data comprises modulating said ATM cells received from said ATM backplane (line concentrator, Fig. 2 and 3, col. 5, lns. 3-35).

-Referring to claim 20, Kaplan discloses the method of claim 15, further comprising: transmitting an ATM cell string having an address attached for the analog telephone network by said second line concentrator to said analog telephone network; and transmitting an ATM cell string having an address attached for the high-speed digital network to a high speed digital telephone network (fig. 4).

Response to Arguments

4. Applicant's arguments filed 4/23/04 have been fully considered but they are not persuasive. Applicant argues (Remarks, page 13) that *in Kaplan there is no teaching or suggestion of "... an apparatus on the station side in which a signal received from the apparatus on the subscriber side through the subscriber line is demodulated by a second ADSL modem ...".* Examiner respectfully disagrees with Applicant contention. Kaplan clearly discloses that MUX (120, 122, 124, 126, 202; figs. 1 and 2) interpreted as station side, the MUX (120, 122, 124, 126, 202; figs. 1 and 2) receives the signal from the apparatus on the subscriber side through the subscriber line demodulates it into ATM signal by a second ADSL modem, and forward the ATM signal to the **service node** where it is thereafter the digital audio signal is converted into an analog audio signal, which is supplied to an analog telephone network (POTS 160; Fig. 1), and at the same time high-speed digital data is supplied to a high-speed digital data network (ATM 150; Fig. 1).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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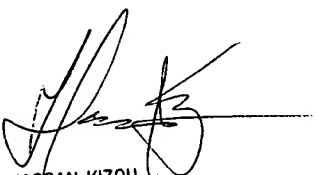
June 28, 2004



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